CLAIMS

1. A transistor circuit having a plurality of thin-film transistors formed on a substrate and wiring adapted to connect a gate, a source, and/or a drain of each of the thin-film transistors, so as to perform a predetermined operation, the transistor circuit comprising:

at least one thin-film transistor applied with a forward bias between a gate and a source repeatedly and/or continuously via wiring during the operation, and

reverse-bias-application means configured to suppress a variation in a threshold voltage of the thin-film transistor by applying a reverse bias between the gate and source of the thin-film transistor in such timing that the operation is not disturbed.

2. A transistor circuit according to Claim 1, comprising an additional thin-film transistor connected in parallel to the thin-film transistor and complement means which drives the additional thin-film transistor relative to the thin-film transistor, so as to generate timing where the above-described operation is not disturbed,

wherein the reverse-bias-application means applies the reverse bias to the thin-film transistor in the generated timing.

3. A transistor circuit according to Claim 2, wherein the thin-film transistor is of an N-channel type and/or a P-

channel type, the additional thin-film transistor is of the N-channel type and/or the P-channel type, similarly, and the complement means applies a pulse to a gate of the additional thin-film transistor, the pulse being opposite in phase to a pulse applied to the gate of the thin-film transistor.

4. A transistor circuit according to Claim 2, wherein the thin-film transistor is of an N-channel type and/or a P-channel type, the additional thin-film transistor is of the P-channel type and/or the N-channel type, oppositely, and the complement means applies a pulse to the additional thin-film transistor, the pulse being in phase with a pulse applied to the gate of the thin-film transistor.

5. A pixel circuit that is provided at each of intersections of scan lines in rows and scan lines in columns, and that samples a signal from the signal line upon being selected by the scan line and drives a load element according to the sampled signal, the pixel circuit comprising:

a plurality of thin-film transistors formed on a substrate and wiring adapted to connect a gate, a source, and/or a drain of each of the thin-film transistors,

at least one thin-film transistor applied with a forward bias between a gate and a source repeatedly and/or continuously via wiring while the load element is driven, and

reverse-bias-application means configured to suppress a variation in a threshold voltage of the thin-film transistor by applying a reverse bias between the gate and source of the thin-film transistor in such timing that the driven load element is not disturbed.

6. A pixel circuit according to Claim 5, comprising an additional thin-film transistor connected in parallel to the thin-film transistor and complement means which operates the additional thin-film transistor complementarily relative to the thin-film transistor and generates timing where the above-described driven load element is not disturbed,

wherein the reverse-bias-application means applies the reverse bias to the thin-film transistor in the generated timing.

7. A pixel circuit according to Claim 6, wherein the thin-film transistor is of an N-channel type and/or a P-channel type, the additional thin-film transistor is of the N-channel type and/or the P-channel type, similarly, and the complement means applies a pulse to a gate of the additional thin-film transistor, the pulse being opposite in phase to a pulse applied to the gate of the thin-film transistor.

8. A pixel circuit according to Claim 6, wherein the thin-film transistor is of an N-channel type and/or a P-channel type, the additional thin-film transistor is of the P-channel type and/or the N-channel type, oppositely, and

the complement means applies a pulse to the additional thin-film transistor, the pulse being in phase with a pulse applied to the gate of the thin-film transistor.

9. A pixel circuit according to Claim 5, wherein the plurality of thin-film transistors includes a sampling thin-film transistor that is brought into conduction upon being selected by the scan line, and that samples a signal from the signal line and holds the sampled signal in a holding capacitor, a drive thin-film transistor which controls the amount of power applied to the load element according to the potential of the signal held in the holding capacitor, and a switching thin-film transistor which performs on/off control of the amount of power applied to the load element, wherein the reverse-bias-application means applies the reverse bias to at least one of the drive thin-film transistor and the switching thin-film transistor.

10. A pixel circuit according to Claim 9, comprising threshold voltage-cancellation means configured to adjust the level of a signal potential applied to a gate of the drive thin-film transistor, so as to cancel a variation in a threshold voltage of the drive thin-film transistor.

11. A pixel circuit according to Claim 9, comprising bootstrap means configured to automatically control the level of a signal potential applied to a gate of the drive thin-film transistor, so as to accommodate a variation in

the characteristic of the load element.

12. A display device comprising scan lines in rows, scan lines in columns, and pixel circuits provided at intersections of the scan lines,

wherein, upon being selected by the scan line, the pixel circuit samples a video signal from the signal line and drives a light-emission element according to the sampled video signal, and

wherein the pixel circuit includes a plurality of thin-film transistors formed on a substrate and wiring adapted to connect a gate, a source, and/or a drain of each of the thin-film transistors,

at least one thin-film transistor applied with a forward bias between a gate and a source repeatedly and/or continuously via wiring while the light-emission element is driven, and

reverse-bias-application means configured to suppress a variation in a threshold voltage of the thin-film transistor by applying a reverse bias between the gate and source of the thin-film transistor in such timing that the driven light-emission element is not disturbed.

13. A display device according to Claim 12, comprising an additional thin-film transistor connected in parallel to the thin-film transistor and complement means which operates the additional thin-film transistor complementarily relative to

the thin-film transistor and generates timing where the driven light-emission element is not disturbed,

wherein the reverse-bias-application means applies the reverse bias to the thin-film transistor in the generated timing.

14. A display device according to Claim 13, wherein the thin-film transistor is of an N-channel type and/or a P-channel type, the additional thin-film transistor is of the N-channel type and/or the P-channel type, similarly, and the complement means applies a pulse to a gate of the additional thin-film transistor, the pulse being opposite in phase to a pulse applied to the gate of the thin-film transistor.

15. A display device according to Claim 13, wherein the thin-film transistor is of an N-channel type and/or a P-channel type, the additional thin-film transistor is of the P-channel type and/or the N-channel type, oppositely, and the complement means applies a pulse to the additional thin-film transistor, the pulse being in phase with a pulse applied to the gate of the thin-film transistor.

16. A display device according to Claim 12, wherein the plurality of thin-film transistors includes a sampling thin-film transistor that is brought into conduction upon being selected by the scan line, and that samples a video signal from the signal line and holds the sampled video signal in a holding capacitor, a drive thin-film transistor which

controls the amount of power applied to the light-emission element according to the potential of the signal held in the holding capacitor, and a switching thin-film transistor which performs on/off control of the amount of power applied to the light-emission element, wherein the reverse-bias-application means applies the reverse bias to at least one of the drive thin-film transistor and the switching thin-film transistor.

17. A display device according to Claim 16, comprising threshold voltage-cancellation means configured to adjust the level of a signal potential applied to a gate of the drive thin-film transistor, so as to cancel a variation in a threshold voltage of the drive thin-film transistor.

18. A display device according to Claim 16, comprising bootstrap means configured to automatically control the level of a signal potential applied to a gate of the drive thin-film transistor, so as to accommodate a variation in the characteristic of the load element.

19. A method of driving a transistor circuit including a plurality of thin-film transistors formed on a substrate and wiring adapted to connect a gate, a source, and/or a drain of each of the thin-film transistors, so as to perform a predetermined operation, the driving method being adapted to perform:

a forward bias-application step adapted to apply a

forward bias between the gate and the source of at least one of the thin film transistors repeatedly and/or continuously via the wiring during the operation, and

a reverse bias-application step adapted to suppress a variation in a threshold voltage of the thin-film transistor by applying a reverse bias between the gate and source of the thin-film transistor in such timing that the operation is not disturbed.

20. A method of driving a transistor circuit according to Claim 19, comprising a complement step adapted to drive an additional thin-film transistor connected in parallel to the thin-film transistor complementarily relative to the thin-film transistor, thereby generating timing where the operation is not disturbed,

wherein the reverse bias-application step is adapted to apply the reverse bias to the thin-film transistor in the generated timing.

21. A method of driving a pixel circuit that is provided at each of intersections of scan lines in rows and scan lines in columns, and that includes a plurality of thin-film transistors formed on a substrate and wiring adapted to connect a gate, a source, and/or a drain of each of the thin-film transistors, so as to sample a signal from the signal line upon being selected by the scan line and drive a load element according to the sampled signal, the driving

method being adapted to perform:

a forward bias-application step adapted to apply a forward bias between the gate and the source of at least one of the thin film transistors repeatedly and/or continuously via the wiring while the load element is driven, and

a reverse bias-application step adapted to suppress a variation in a threshold voltage of the thin-film transistor by applying a reverse bias between the gate and source of the thin-film transistor in such timing that the driven load element is not disturbed.

22. A method of driving a pixel circuit according to Claim 21, comprising a complement step adapted to operate an additional thin-film transistor connected in parallel to the thin-film transistor complementarily relative to the thin-film transistor, thereby generating timing where the driven load element is not disturbed,

wherein the reverse bias-application step is adapted to apply the reverse bias to the thin-film transistor in the generated timing.

23. A method of driving a display device comprising scan lines in rows, scan lines in columns, and pixel circuits provided at intersections of the scan lines, wherein, upon being selected by the scan line, the pixel circuit samples a video signal from the signal line and drives a light-emission element according to the sampled video signal, and

wherein the pixel circuit includes a plurality of thin-film transistors formed on a substrate and wiring adapted to connect a gate, a source, and/or a drain of each of the thin-film transistors, the driving method being adapted to perform:

a forward bias-application step adapted to apply a forward bias between the gate and the source of at least one of the thin-film transistors repeatedly and/or continuously via the wiring while the light-emission element is driven, and

a reverse bias-application step adapted to suppress a variation in a threshold voltage of the thin-film transistor by applying a reverse bias between the gate and source of the thin-film transistor in such timing that the driven light-emission element is not disturbed.

24. A method of driving a display device according to Claim 23, the driving method comprising a complement step adapted to operate an additional thin-film transistor connected in parallel to the thin-film transistor complementarily relative to the thin-film transistor, thereby generating timing where the driven light-emission element is not disturbed,

wherein the reverse bias-application step is adapted to apply the reverse bias to the thin-film transistor in the generated timing.